

**B.Sc. MICROBIOLOGY  
FIRST SEMESTER  
MAMMALIAN PHYSIOLOGY AND BIOCHEMISTRY  
BMB-102**

**SET  
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1hr. 30 mins.

Full Marks: 35

Time: 15 mins.

( Objective )

Marks: 10

*Choose the correct answer from the following:*

*1×10=10*

- The compounds having the same structural formula but differing in configuration around one carbon atom are called:
  - Optical isomer
  - Anomers
  - Stereoisomers
  - Epimers
- In the intestine the dietary fats are hydrolysed by:
  - Triacylglycerol lipase
  - Adenylate cyclase
  - Pancreatic lipase
  - Protein kinase
- Which of the following is a carbohydrate with no nutritional value?
  - Starch
  - Glycogen
  - Dextrin
  - Cellulose
- Which of the following techniques is used to determine the protein structures?
  - X-ray crystallography
  - Kryptonics X-ray vision
  - Magnetic resonance imaging (MRI)
  - None of the above
- Which of the following is the smallest carbohydrate-triose?
  - Ribose
  - Glucose
  - Glyceraldehyde
  - Dihydroxyacetone
- Which of the following is not an intermediate of citric cycle?
  - Acetoacetate
  - Citrate
  - Oxalosuccinate
  - Succinyl CoA
- All of the reactant will be converted to products:
  - Will never reach equilibrium
  - Will not occur spontaneously
  - Will proceed at a rapid rate
  - Will proceed at a rapid rate
- ATP is a:
  - Nucleoside
  - Nucleotide
  - Vitamin
  - Nucleic acid
- Metal ions that temporarily binds substrate and active site of 'enzyme' is called:
  - Inhibitors
  - Coenzymes
  - Prosthetic group
  - Cofactors

10. Which of the following is NOT an endocrine gland?
- a. Hypothalamus
  - b. Pituitary
  - c. Parathyroid
  - d. Pancreas

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**( Descriptive )**

Time : 1 hr. 15 mins.

Marks : 25

[ Answer question no.1 & any two (2) from the rest ]

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|--|--------|
| 1. What is hematopoiesis? Write a note on stem cells.  | 5      |
| 2. Explain the process of digestion and absorption of:<br>a) Carbohydrate      b) Protein                    | 5+5=10 |
| 3. What are the triggering factors of blood clotting? Explain the intrinsic and extrinsic pathway in detail. | 5+5=10 |
| 4. Define Proteins. What are the forces stabilizing the structure of proteins?                               | 3+7=10 |
| 5. Explain the process of mechanism of contraction of muscle.  | 10     |

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